ARTIFICIAL EYE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to artificial eyes and in particular to artificial eyes for use in toys, such as dolls, and for use in mannequins. More particularly, the present invention relates to an artificial eye which is soft, elastic and human in appearance, and which can be deformed sufficiently for insertion in the rigid eye socket of a doll or a mannequin from the front of the eye socket.

2. Description of the Prior Art

Artificial eyes are well known in the prior art. Artificial eyes are used for dolls, toys, mannequins and by persons who have lost an eye. Exemplary of artificial eyes disclosed in the prior art are the following:

U.S. Pat. No. 4,324,066 discloses an artificial eye comprising an opaque, bulbous base and a convex, rigid, substantially transparent lens secured to the base. Between the lens and the base is an image of an eye, the image being visable through the lens. The lens is secured to the base by a film of substantially transparent polymeric material. For durability, the base, cap, and film are all formed from rigid plastic materials that are substantially unbreakable in use.

U.S. Pat. No. 2,991,588 discloses an eye for toys, the eye including an iris portion having an aperture therethrough and a pupil portion having a threaded stem. The threaded stem passes through an aperture and a nut is threaded on the stem for maintaining the pupil portion in a stationary position relative to the iris portion. The iris and pupil are rigid plastic materials such as nylon and polystyrene.

U.S. Pat. No. 2,903,816, discloses an amusement device including an artificial eye having a suction cup at the rear thereof for placement on a flat surface such as the forehead of the human body. The general configuration is such as to imitate the bulbousness of that portion of a person's features immediately surrounding an eye, showing the lid and the lashes. The eye portion of the eye assembly is a button received in a cavity molded in the body containing the eye. A surface surrounding the eye is colored white to represent the white of the eye.

U.S. Pat. No. 2,466,278 discloses a plastic doll's eye and method of making the eye. The eyeball or sclera is made of cellulose acetate butyrate and is rigid and non-elastic. A cornea is made of the same material and is inserted in a cavity or recess in the eyeball. A pin is connected to the rear of the eyeball for connecting the eye to a doll.

U.S. Pat. No. 2,394,400 discloses a method of making an artificial eye for the human body. The portion of the eye corresponding to the sclera is formed from a rigid plastic material such as phenol. The sclera has a recess for a receipt of an iris.

U.S. Pat. No. 1,993,121 discloses an artificial eye for the human body made from a thermoplastic material such as a polymerized olefine derivative. The plastic from which the material is made is rigid plastic and is not flexible or elastic.

U.S. Pat. No. 1,253,888 discloses an artificial eye made from hardened white rubber and having a glass iris. The body is formed of hardened rubber and is not flexible or elastic.

Artificial eyes presently on the market are commonly made of glass and are very expensive. Furthermore, such glass eyes must be inserted into a doll's eye socket from the back side of the doll, thus requiring opening the skull of the doll prior to fitting the eye therein.

Difficulty is frequently encountered in fitting glass eyes into the eye socket of a doll due to slight variations in the dimensions of the eye socket and glass eye during manufacture, or warpage of the eye socket after manufacture. To fit a glass eye into such eye sockets, it is frequently necessary to cut or bevel each socket to fit the eye.

When glass eyes are utilized in porcelain dolls, the inside portion of the eye socket must be perfectly cut and sized in the greenware stage of manufacture of the doll, and such cutting and sizing requires expensive, time consuming, expert craftsmanship. Furthermore, when greenware is fired, warping sometimes occurs, and a glass eye will not fit in the eye socket without additional time consuming and expensive cutting and beveling of the eye socket.

It is an object of this invention to provide a low cost artificial eye which closely resembles the human eye.

It is another object of the invention to provide an elastic, life-like human eye which can be deformed and fitted into the rigid eye socket of a doll, thereby conforming naturally to the entire contour of the rigid eye socket without the necessity of precisely shaping the socket to fit the eye.

An additional object of this invention is to provide an elastic, life-like human eye which can be deformed and fitted into the rigid eye socket of a doll from the front of the eye socket.

SUMMARY OF THE INVENTION

In accordance with the present invention there is provided an artificial eye including a sclera for insertion into an eye socket, the sclera having a cavity therein for forming the pupil of the eye, the sclera being made from a soft, elastic material, and a transparent cornea connected to the sclera. The cornea may have a pigment therein to color the cornea. In a preferred embodiment of the invention, the sclera has a recessed portion for receipt of the cornea and/or an iris. In another additional embodiment of the invention, the artificial eye includes a sclera with a recessed portion and a reflective material connected to the recessed portion, an iris having striations therein located adjacent to the reflective material, and a cornea adjacent to the iris. In a further embodiment of the invention the sclera has a recessed portion for receipt of a reflective material and a colored cornea. Additional embodiments will be disclosed below.

The artificial eyes of the invention have the advantage of very closely resembling the human eye. Another advantage of the artificial eye of the invention is that the eye is relatively inexpensive to manufacture as compared to glass eyes and other eyes of the prior art.

An even further advantage of the present invention is that it is possible for the eye to be deformed by the fingers of the craftsman and inserted into the front of a rigid eye socket in a doll, thus allowing the skull of the doll to be molded as one piece without requiring that the skull be opened to insert the eye from the back of the eye socket.

A further important advantage of the elastic eye of the invention is that the eye can be inserted into the eye sockets of dolls and mannequins made of porcelain or